BIBLIOGRAPHICAL NOTE AND QUERY.

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IN *The Mathematical Diary* etc., conducted by *James Ryan*, A. M., 12°, New York, 1832, volume II, No. 13, p. 311, we find the following:—

"QUESTION XXVI. (269.) or PRIZE QUESTION.—*By Scientific Sigma, Esq., New-York.*

"It is required to describe upon the same plane, three circles touching each other, each of which shall touch two given circles.

"For the best solution to this qustion, a handsomely bound complete set of the Diary in two volumes, is offered."

Now this number of the Diary, March 1832, was, according to Dr. Hart, the last that appeared. See ANALYST, Vol. II, p. 134. And since it was the last no solution could have appeared in Ryan's Diary. Can any reader of the ANALYST tell whether it has ever been taken up since then and solved, and if so, when, where and by whom?

It may be added that, before it was here proposed as the Prize Question, it had been solved by Prof. Jacob Steiner of Berlin, whose solution may be found in Crelle's Journal, Vol. I, pp. 180—181. No proof of the solution was given by Steiner and, so far as I am aware, none has ever been given.

PROBLEM. BY W. E. HEAL, WHEELING, IND. — "I have a circular fish pond, radius, r; a duck is swimming around the edge and my dog starts from the center in pursuit of the duck, swimming always directly towards it. Required the equation, and length, of the curve described by the dog, supposing that he swims n times as fast as the duck.

[The foregoing is substantially the same question which was published, together with the following solution by us, in the *School Friend* for Aug., 1851. Though our solution is here submitted, if any of our readers should feel sufficient interest in the question to obtain a different, or more elegant, solution, we will be pleased to insert it in a future number.—Ed.]

Solution. Let S represent the center of the pond and ACB one fourth of its circumference, and let D denote any position of the dog and C the corresponding position of the duck; then must curve $SD = n \times \text{arc } AC$.

Draw Tt tangent to the curve at D and $T't'$ tangent to the circle at C. Draw Sa and Ds indefinitely near SD and DC, respectively, and draw Db and Ce respectively perpendicular to Sa and Ds.